IN THE SPECIFICATION

Please amend the specification as indicated below:

At page 5, line 30:

The lightest possible ligand is hydrogen. This element is not only very light compared to the conventionally employed halogens (mostly fluorine), forms gaseous compounds with elements that are of interest for the electronic and semiconductor industries, but is also naturally present as almost a monoisotopic ^{1}H with only less than ~~0,015%~~ 0.015% ^{2}H (also commonly denoted as "D"). This low abundance of D does not pose a serious problem, such that the above mentioned properties are all beneficial and make hydrogen the ideal ligand in order to obtain the objectives of this invention.

At page 6, line 1:

The effect of the reduced weight can be demonstrated by comparing the practical mass difference between $^{28}SiF_4$ and $^{29}SiF_4$ in the above mentioned conventional process of Isonics Corporation, which is (29-28)/(29+76) = ~~0,00961~~ 0.00961 with the corresponding practical mass difference between $^{28}SiH_4$ and $^{29}SiH_4$ which is (29-28)/(29+4) = ~~0,030303~~ 0.030303. The substitution of fluorine with hydrogen in the case of refining silicon isotopes gives an increase in the practical mass difference of more than 300%, such that the efficiency of a mass separation process employing SiH_4 will thus be approximately tripled in comparison with the conventional processes based on SiF_4. Another beneficial feature in the case of supplying the semiconductor and electronic industry is that SiH_4 is an often used raw material for forming both the semi conducting and insulating layers of semiconductors. Thus the isotopically refined compound can be used directly in the production lines of the semiconductor industries without requiring any chemical conversion of the feed stock.

At page 6, line 15:

The elements that form gaseous hydrogen compounds at practical pressures and temperatures are: B, N, C, O, F, Si, P, S, Cl, Ga, Ge, As, Se, Br, Sb, Te and I. Of these, F, P, As, and I are mono-isotopic and are therefore not a subject for isotope separations. The gaseous compounds of interest are correspondingly: B_2H_6, NH_3, CH_4, H_2O, SiH_4, H_2S, HCl, Ga_2H_6, Ge_2H_6, H_2Se, HBr, H_2Sb, and H_2Te. In fact, hydrogen itself is an interesting element for isotope separation, especially when the use in nuclear applications is considered. A list of the compounds, the isotopes and corresponding abundances in question are presented in Table 1. In Table 2 the physical properties of the compounds are listed. By practical pressures and temperatures, we mean pressures within approximately ~~0,25~~ 0.25-100 bar and temperatures within approximately -195 to +400 °C, preferably ~~0,5~~ 0.5-10 bar and -195-+100 °C.

Table 1 at the bottom of page 6: (the commas being replaced by periods as decimal separators)

***Table 1**. Gaseous hydrids, the isotopes and abundances.*

Compound	At. no.	Isotopes (mass number, A) and abundances (I in %)															
		A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I
H_2	1	1	99.985	2	0.015												
B_2H_6	5	10	20.0	11	80.0												
CH_4	6	12	98.90	13	1.10												
NH_3	7	14	99.63	15	0.37												
H_2O	8	16	99.762	17	0.038	18	0.200										
SiH_4	14	28	92.23	29	4.67	30	3.10										
H_2S	16	32	95.02	33	0.75	34	4.21	36	0.02								
HCl	17	35	75.77	37	24.23												
Ga_2H_6	31	69	60.1	71	39.9												
Ge_2H_6	32	70	20.5	72	27.4	73	7.8	74	35.5	76	7.8						
H_2Se	34	74	0.9	76	9	77	7.6	78	23.5	80	49.6	82	9.4				
HBr	35	79	50.69	81	49.31												
H_2Sb	51	121	57.3	123	42.7												
H_2Te	52	120	0.096	122	2.6	123	0.908	124	4.816	125	7.14	126	19	128	31.69	130	33.8

Table 2 at the bottom of page 7: (The commas being replaced by periods as decimal separators)

***Table 2**. Some physical properties of gaseous hydrids.*

Compound	Atomic no.	Mol.mass (g/mole)	Melt. Pnt. (°C)	Boil. Pnt. (°C)	Dipole mom. (10^{-30}Cm)
H_2	1	2.0158	-259.14	252.8	0.0
B_2H_6	5	27.67	-165.5	-92.5	0.0
CH_4	6	16.04	-182	-164	0.0
NH_3	7	17.03	-77.7	-33.35	
H_2O	8	18.0153	0	100	
SiH_4	14	32.12	-185	-111.8	0.0
H_2S	16	34.08	-85.5	-60.7	
HCl	17	36.46	-114.8	-84.9	3.60
Ga_2H_6	31	145.49	-21.4	139	0.0
Ge_2H_6	32	151.23	-109	29	0.0
H_2Se	34	80.98	-60.4	-41.5	
HBr	35	80.92	-88.5	-67.0	
H_2Sb	51	124.77	-88.5	-17.0	
H_2Te	52	129.62	-48.9	-2.2	

At page 9, line 8:

Column preparation

The particles ~~was~~ were pressed into the tube by using liquid CO_2 delivered from a CO_2-supercritical extraction pump, ISCO Model 260D Syringe pump with ISCO SFX 200 controller, at a pressure of 300 bar and a fluid flow of ~~0,1-0,2~~ 0.1-0.2 mL/min. During packing the tubing was submersed in an ultrasound bath. After the packing the pressure was released slowly to avoid release of particles.